

**BUREAU OF AIR POLLUTION CONTROL**

901 SOUTH STEWART STREET SUITE 4001

CARSON CITY, NEVADA 89701-5249

p: 775-687-9350 • www.ndep.nv.gov/bapc • f: 775-687-6396**Facility ID No. A0009****PERMIT NO. AP2819-0886.02****CLASS I AIR QUALITY OPERATING PERMIT****Issued to: Cyanco Company, LLC. (Permittee)****Section VI. Specific Operating Conditions****A. Emission Units S2.001 – S2.003**

Locations: TO-1 North 4,532.510 km, East 427.508 km, UTM (Zone 11)

B-5300 North 4532.550 km, East 427.538 km, UTM (Zone 11)

System 01 – NaCN Production Plant #1 (West Plant)

S	2.001	Catalytic Reactor
S	2.002	Waste Heat Exchanger
S	2.003	Caustic Scrubber

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program**Air Pollution Control Equipment**

Emissions from **S2.001 – S2.003** shall be ducted to a control system consisting of Thermal Oxidizers TO-1 and B-5300, with 100% capture efficiency. TO-1 and B-5300 have low-NO_x burners as part of their design. Thermal Oxidizer TO-1 and/or B-5300 must be operating at all times, including startup, shutdown and cleansing operations, and any resulting process gases must be ducted through Thermal Oxidizer TO-1 and/or B-5300 for control of cyanide compounds. Thermal Oxidizer TO-1 and/or B-5300 must be operated during any upset conditions which results in emissions which can be ducted through Thermal Oxidizer TO-1 and/or B-5300.

TO-1 Stack Parameters

Height: 60.0 ft
Diameter: 4.46 ft
Exhaust Temperature: 1,750 °F
Velocity: 103.8 ft/sec
Volume Flow: 14,912 DSCFM

B-5300 Stack Parameters

Height: 60.0 ft
Diameter: 4.46 ft
Exhaust Temperature: 1,750 °F
Velocity: 94.2 ft/sec
Volume Flow: 14,305 DSCFM

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program**Emission Limits**

On and after the date of startup of **S2.001 – S2.003**, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of TO-1 and/or B-5300 for the following pollutants in excess of the following specified limits:

- NAC 445B.305 Part 70 Program – The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 2.3 pounds per any one hour period, nor more than 10.07 tons per year.
- NAC 445B.305 Part 70 Program – The discharge of PM (particulate matter) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 2.3 pounds per any one hour period, nor more than 10.07 tons per year.
- NAC 445B.2203 Federally Enforceable SIP Requirement – The discharge of PM₁₀ to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 0.35 pound per million Btu.
- NAC 445B.2204 Federally Enforceable SIP Requirement – The discharge of sulfur to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 72.84 pounds per hour.



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (continued)

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits (continued)

- e. NAC 445B.305 Part 70 Program – The discharge of SO₂ (sulfur dioxide) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 0.003 pound per hour, nor more than 0.01 ton per year.
- f. NAC 445B.305 Part 70 Program – The discharge of NO_x (nitrogen oxides) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 92.0 tons per year, based on a 12-month rolling period.
- g. NAC 445B.305 Part 70 Program – The discharge of CO (carbon monoxide) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 10.83 pounds per any one hour period, nor more than 38.0 tons per year, based on a 12-month rolling period.
- h. NAC 445B.305 Part 70 Program – The discharge of VOC (volatile organic compounds) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 9.95 pounds per any one hour period, nor more than 43.58 tons per year.
- i. NAC 445B.305 Part 70 Program – The discharge of Cyanide Compounds to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 0.68 pound per any one hour period, nor more than 3.00 tons per year.
- j. NAC 445B.305 Part 70 Program – The discharge of Pb (lead) to the atmosphere from **TO-1 and B-5300**, combined, will not exceed 2.75E-5 pound per any one hour period, nor more than 1.20E-4 ton per year.
- k. 445B.2207(1)(b) Federally Enforceable SIP Requirement – Incinerator burning which produces, for periods totaling 1 minute in 1 hour, a visible emission which is of an opacity equal to or greater than 20 percent, is prohibited.
- l. NAC 445B.22017 Federally Enforceable SIP Requirement – The opacity from the stack discharge of **TO-1 and B-5300**, each, will not equal or exceed 20%.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters

- a. The maximum allowable production rate of Sodium Cyanide (NaCN) from S2.001 – S2.003, will not exceed 6.25 tons per any one hour period, nor more than 102 million pounds per year (51,000 tons), based on a 12-month rolling period.
- b. TO-1 and B-5300 will combust only pipeline quality natural gas and normal process waste gases.
- c. The maximum operating heat input rate for TO-1 will not exceed 56.0 MMBtu per hour.
- d. The maximum operating heat input rate for B-5300 will not exceed 48.0 MMBtu per hour.
- e. TO-1 and B-5300, each, will maintain a minimum 1400°F operating temperature.
- f. 445B.2207(3) Federally Enforceable SIP Requirement The rated burning capacity, operating and maintenance procedures approved by the Director for TO-1 and B-5300 must be posted conspicuously at or near TO-1 and B-5300.
- g. Hours
S2.001 – S2.003, each, may operate up to 8,760 hours per year.



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program

a. Performance/Compliance Testing

The Permittee shall:

- (1) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct and record compliance tests for PM, PM₁₀, CO, NO_x and VOC using Methods 1-4, 5/202, 201A/202, 10, 7 and 25 (or equivalent EPA reference methods approved in advance by the Director). Compliance tests for Cyanide Compounds will also be conducted once every year, using a combination of Method 5 and NIOSH Method 7904. All compliance tests must consist of a minimum of three valid runs for each pollutant on the exhaust stacks of TO-1 and B-5300. The tests must be conducted at hourly throughput rates that are representative of TO-1 and B-5300 systems' performances. The Method 5/202, 10 and 25 compliance tests must be conducted in accordance with test methods contained in 40 CFR Part 60, Appendix A. The sample time for each Method 5/202 test run shall be at least 60 minutes. The sample volume for each Method 5/202 test run shall be at least 60 dry standard cubic feet. The Method 201A/202 compliance tests must be conducted simultaneously and in accordance with 40 CFR Part 51, Appendix M. The NIOSH Method 7904 compliance test will be conducted in accordance with NIOSH Manual of Analytical Methods, Fourth Edition (8/15/1994). All annual compliance testing will be conducted not more than 90 days from the anniversary date of the previous compliance testing. Upon written request, the Director may approve an extension to the annual compliance test date.
- (2) A Method 5/202 compliance test, which includes the back-half catch, may be substituted for the Method 201A/202 compliance test required in A.4.a.(1) of this section. All particulate matter captured in the Method 5/202 test, performed under this provision, will be considered PM₁₀ emissions for compliance demonstration purposes.
- (3) After at least three successive compliance tests, the Director may authorize, in writing, a less frequent compliance testing schedule than the annual testing schedule required in A.4.a.(1) of this section. The authorization will be based on pollutant-by-pollutant review of the emission rates during each compliance test. The review will include an evaluation of the variability in the measured emission rates and the percentage amount that the measured emission rates are below the permitted emission limit. The review will also include an evaluation of the operating throughput rate recorded during each compliance test, readings of the relevant control parameters taken during each compliance test and any other information requested by the Director. The compliance testing frequency will not be less than one test every five years.
- (4) During each compliance test, as required in A.4.a.(1) and (2) of this section, record the total sodium cyanide production (based on a 100% contained NaCN basis).
- (5) During each compliance test run, but no less frequently than once per calendar year, record the opacity of the discharge from the exhaust stacks of TO-1 and B-5300, using either a calibrated continuous opacity monitor or the visible emissions evaluation procedures contained in 40 CFR Part 60, Appendix A, Method 9. The visible emissions evaluations must be conducted by a certified visible emissions reader for a period of 6-minutes (recorded as 24 consecutive readings at 15 second intervals).
- (6) During each compliance test run, record the average thermal oxidizer residence time.



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program(continued)*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 *Compliance Assurance Monitoring Program (continued)*

a. Performance/Compliance Testing (continued)

- (7) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct the Relative Accuracy Test Audit (RATA) required to certify the performance of the NO_x CEMS described in A.4.b.(2) of this section. The annual RATA must be conducted within 12 months of the previous RATA, and must be done in accordance with the notification, protocol approval, and reporting requirements of NAC 445B.252 Testing and Sampling, and NAC 445B.259 Monitoring systems: Performance evaluations.
- (8) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct a test to demonstrate the performance of the flow monitoring devices described in A.4.b.(4) of this section. The demonstration shall be comprised of a series of nine 30-minute test runs. The average sum of the inlet flows during each test run must total at least 100 percent, but not more than 110 percent, of the average exhaust flow measured during each test run. The annual flow monitoring demonstration must be undertaken in accordance with the notification, protocol approval, and reporting requirements of NAC 445B.252 Testing and Sampling, and NAC 445B.259 Monitoring systems: Performance evaluations.

b. Monitoring

The Permittee shall:

- (1) Monitor the average NaCN production (in tons) for each one-hour period.
- (2) Install, calibrate, operate and maintain, in the exhaust stacks of TO-1 and B-5300 each, a NO_x continuous emission monitoring (CEM) system (consisting of a NO_x pollutant concentration monitor). The CEMs must meet the criteria contained in 445B.257 through 445B.265, and continuously measure the NO_x concentration (in ppm). The NO_x monitoring system will meet the design, installation, equipment and performance specifications in 40 CFR Part 60, Appendix B, Performance Specifications 2 and 3 (or any other appropriate EPA performance specifications contained in 40 CFR Part 60, Appendix B approved in advance by the Director) and the quality assurance procedures contained in 40 CFR Part 60, Appendix F. If the results of the stack testing required in A.4.a.(1) of this section indicate that oxygen levels in the stack gases are necessary to determine a valid NO_x emission rate, an oxygen diluent monitor will be installed within 90 days from the Director's request.
- (3) In accordance with NAC 445B.261 Monitoring systems: Adjustments. Check the zero and span drift of the NO_x CEMS at least once daily in accordance with the method prescribed by the manufacturer of the systems unless the manufacturer recommends adjustments at shorter intervals, in which case the recommendations must be followed. The zero and span must, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour calibration drift limits of the applicable performance specifications in Appendix B of 40 CFR Part 60 are exceeded.
- (4) Install, calibrate, operate, and maintain flow monitoring devices on the inlet flows of TO-1 and B-5300, each. Flow monitoring devices are required to monitor the flow of natural gas, the NaCN reactor's waste gas stream, and combustion air into TO-1 and B-5300. The sum of the inlet flows for each stack shall represent the exhaust flow rate from TO-1 and B-5300, calculated to dry standard cubic feet per hour (DSCFH). The performance of the inlet flow monitoring devices and the accuracy of the exhaust flow calculation must be demonstrated once annually through a performance test (see A.4.a.(8) of this section).



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (Continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program (continued)*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

b. Monitoring (continued)

- (5) Based on the NO_x concentration (in ppm) measured in A.4.b.(2) of this section and the volumetric gas flow (in DSCFH) determined in A.4.b.(4) of this section, calculate NO_x mass emissions (in pounds) for each one hour period.
- (6) Monitor the hours of operation of **S2.001 – S2.003**, each.
- (7) Continuously monitor and record the operating temperature (in °F), of each of the thermal oxidizers (TO-1 and B-5300).
- (8) Conduct a weekly inspection of TO-1 and B-5300. Record any problems with TO-1 and B-5300 and any corrective actions taken.
- (9) The indicator range for TO-1 and B-5300 shall be defined as follows: The operating temperature for TO-1 and B-5300, each shall be maintained at or above 1,400 °F. Excursions shall be defined as any time the operating temperature falls below this indicator range during one 15 minute rolling average period.
- (10) Permittee will monitor and sample the ambient air for Hydrogen Cyanide and monitor and record meteorological conditions at the sampling site as specified by the Bureau of Air Pollution Control and in accordance with the requirements of the PSD Monitoring Guidelines (EPA 450/4-87-007) and all the quality assurance procedures specified in the Quality Assurance Handbook for Air Pollution Measurement Systems (EPA 600/4-77-027a). Findings will be submitted to the Bureau of Air Pollution Control within 60 days after the end of each calendar quarter. The quality control and quality assurance aspects of the Hydrogen Cyanide ambient monitoring program shall be documented with monitor calibrations, monitor performance audits, gas concentration certifications and descriptions of any ambient air quality alarms triggered during the reporting period. The Hydrogen Cyanide detection monitors will be installed at the following locations and set to detect the following concentrations:

Hydrogen Cyanide Property Monitor 10.00 ppm @ 0.87 km, East North East

Hydrogen Cyanide Property Monitor 10.00 ppm @ 0.47 km, South

(Property monitor's set points are for reference conditions of 1 atm, 273 °K)

- (11) A monitoring alarm system must be connected to the Humboldt County Sheriff's Department. This system will be capable of automatically notifying the Sheriff's Department not more than 15 minutes following an exceedance of respective property monitoring limits.

c. Recordkeeping

The Permittee shall:

- (1) Install, calibrate, operate, and maintain a continuous data collection system (CDCS) to record the NaCN production required in A.4.b.(1) of this section. The production rate will be recorded at least once every 15 minutes. The CDCS will be installed, calibrated, operated and maintained in accordance with the manufacturer's specifications and the requirements prescribed in 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 2, and 40 CFR Part 75, Part 75.11 and Appendix F.
- (2) Use the CDCS required in A.4.c.(1) of this section to continuously record the thermal oxidizer's operating temperature. The temperature will be recorded at least once every 15 minutes.



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program (continued)*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

c. Recordkeeping (continued)

- (3) Use the CDCS required in A.4.c.(1) of this section to continuously record the information measured as required by A.4.b.(2) of this section and the calculated NO_x emission rate based on the monitored NO_x concentration and monitored flow rate. All measured information will be recorded at least once every 15 minutes. Additionally, record the following parameters:
 - (a) The hourly average NO_x concentration (in ppm) measured in A.4.b.(2) of this section;
 - (b) The hourly average O₂ concentration (in percent) if required by A.4.b.(2) of this section. A flag will be included in the CDCS record to indicate whether the O₂ concentration is based on dry or wet O₂ measurements;
 - (c) The hourly average volumetric gas flow rate (in DSCFH) determined in A.4.b.(4) of this section;
 - (d) The NO_x mass emissions (in pounds) for each one-hour period of operation;
 - (e) The daily mass emissions of NO_x (in pounds) as the sum of the hourly emissions;
 - (f) The monthly mass emissions of NO_x (in tons) as the sum of the daily emissions;
 - (g) At the end of each calendar month, calculate and record the 12-month rolling average mass emissions of NO_x (in tons). The 12-month rolling average emissions will be calculated as the sum of the emissions from the current month, plus the emissions from the preceding 11 months.
- (4) Use the CDCS required in A.4.c.(1) of this section to also continuously record the calendar date and time of any required monitoring for **S2.001 – S2.003**.
- (5) Maintain the following information in a contemporaneous log for **S2.001 – S2.003**, each, for each day or part of a day that **S2.001 – S2.003**, each, are operating:
 - (a) A description of any modifications or alterations made to the CEMS or CDCS which could affect the ability of the system to comply with the appropriate performance specifications in 40 CFR Part 60, Appendix B.
 - (b) Retain all required records in accordance with Section V.A. of this operating permit.
 - (c) Results of the continuous operating temperature readings for TO-1 and B-5300, each, and verification that the continuous operating temperature remained at or above 1,400 °F.
- (6) The thermal oxidizer temperature sensors, property monitors and the recording of meteorological conditions as required under VI.A.4. will be connected to a data logger that will record the information continuously. The data will be transferred to a secure website and the Bureau of Air Pollution Control will be provided a password allowing continuous access to the data being recorded.
- (7) Based on the results of the most recent annual cyanide compounds compliance test required in A.4.a.(1) of this section, as well as the required production rate of NaCN as required in A.4.c.(1) of this section, use the cyanide compounds emission rate from the most recent compliance test (in units of pounds-HCN/hour) in conjunction with production of NaCN (in units of pounds-NaCN/hr) to calculate pounds of cyanide compounds per month, for each 12-month rolling period. Based on this monthly result, calculate annual emissions of cyanide compounds in units of tons-HCN/12-month rolling period.



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program (continued)*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

c. Recordkeeping (continued)

- (8) An emission factor for PM₁₀, CO and VOC will be calculated (pounds per dry standard cubic feet) each year based on the results of the most recent performance test for PM₁₀, CO and VOC required in A.4.a.(1) of this section. The emission factor shall be used from the date the performance test data report is published until the date of the next performance test date publishing. Permittee will record the daily emissions of PM₁₀, CO and VOC based on the emission factor multiplied by the inlet flows recorded in A.4.c.(3) of this section. The monthly emissions will be determined at the end of each calendar month as the sum of the total daily emissions, in tons. The 12-month rolling emissions will be determined by adding the emissions from the current month, in tons, to the emissions from the preceding 11 months.
- (9) Permittee shall maintain a file of all measurements related to the CEMS in accordance with V.F.3. of this operating permit, including all calibration checks, quarterly CEMS audits, and other quality assurance measurements.
- (10) In accordance with NAC 445B.265 Monitoring systems: Records; reports, maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of an affected facility and any malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative (see V.F.1. of this operating permit).

d. Reporting

The Permittee shall:

- (1) Report all excess emissions as required in Sections III.B and III.C of this operating permit.
- (2) Report all deviations as required in Sections V.C and V.F of the operating permit.
- (3) Submit semi-annual monitoring reports as required in Section V.C of this operating permit.
- (4) Certify compliance with all applicable requirements as required in Section V.E of this operating permit.
- (5) All required monitors will be audited on a quarterly basis. The audits will be conducted by an independent third party, acceptable to the Chief of the Bureau of Air Pollution Control. Reports of the audits will be submitted to the Bureau of Air Pollution Control on a quarterly basis.
- (6) In accordance with NAC 445B.265 Monitoring systems: Records; reports, submit a written report of excess emissions to the Director for every calendar quarter. All quarterly reports must be postmarked by the 30th day following the end of each calendar quarter and must include the information specified under NAC 445B.265.2.(a) through (d).
- (7) Permittee shall demonstrate compliance with the Projected Actual Emissions (PAE) specified in its February 9, 2012 application for minor revision by reporting the actual 12-month rolling average emissions of PM/PM₁₀, NO_x, CO, and VOC from TO-1 and B-5300 on a quarterly basis, commencing with the first quarter following the issuance date of this revised operating permit. For reporting purposes, the issuance date of this revised operating permit is June 8, 2012. Permittee shall comply with the following PAE limits on and after June 8, 2012:
 - (a) PM/PM₁₀ – 10.38 tons per 12-month rolling period.
 - (b) NO_x – 81.09 tons per 12-month rolling period.
 - (c) CO – 9.27 tons per 12-month rolling period.
 - (d) VOC – 3.30 tons per 12-month rolling period.



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Section VI. Specific Operating Conditions (continued)

A. Emission Units S2.001 – S2.003 (continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program (continued)*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

d. Reporting (continued)

- (8) Permittee will submit quarterly reports to the Director demonstrating compliance with PAE limits for PM/PM₁₀, NO_x, CO, and VOC, as specified in A.4.d.(7) above, for the first five years after June 8, 2012, and annually thereafter. If the 12-month rolling period emissions exceed the limit specified in A.4.d.(7)(b), above, for NO_x, Permittee is also required to provide justification in the report that the February 9, 2012 application for revision was not a PSD major modification.

5. NAC 445B.3405 (445B.316) *Part 70 Program*
Shielded Requirements

N/A

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Location: North 4,532.510 km, East 427.520 km, UTM (Zone 11)

System 02 – NaCN Production Plant #2 (East Plant)		
S	2.004	Catalytic Reactor
S	2.005	Waste Heat Exchanger
S	2.006	Caustic Scrubber

1. NAC 445B.3405 (NAC 445B.316) Part 70 ProgramAir Pollution Control Equipment

Emissions from **S2.004 – S2.006**, each, shall be ducted to a control system consisting of a Thermal Oxidizer TO-280, with 100% capture efficiency. TO-280 has a low-NO_x burner as part of its design. The Thermal Oxidizer TO-280 must be operated at all times, including startup, shutdown and cleansing operations, and any resulting process gases must be ducted through the Thermal Oxidizer TO-280 for control of cyanide compounds. Thermal Oxidizer TO-280 must be operated during any upset conditions which results in emissions which can be ducted through the Thermal Oxidizer TO-280.

Stack Parameters

Height: 60.0 ft
Diameter: 7.0 ft
Exhaust Temperature: 1,750 °F
Velocity: 66.3 ft/sec
Volume Flow: 22,434 DSCFM

2. NAC 445B.3405 (NAC 445B.316) Part 70 ProgramEmission Limits

On and after the date of startup of **S2.004 – S2.006**, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of TO-280 the following pollutants in excess of the following specified limits:

- NAC 445B.305 Part 70 Program – The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 2.5 pounds per any one hour period, nor more than 10.95 tons per year.
- NAC 445B.305 Part 70 Program – The discharge of PM (particulate matter) to the atmosphere will not exceed 2.5 pounds per any one hour period, nor more than 10.95 tons per year.
- NAC 445B.2203 Federally Enforceable SIP Requirement – The discharge of PM₁₀ to the atmosphere will not exceed 0.36 pound per million Btu.
- NAC 445B.22047 Federally Enforceable SIP Requirement – The discharge of sulfur to the atmosphere will not exceed 61 pounds per hour.
- NAC 445B.305 Part 70 Program – The discharge of SO₂ (sulfur dioxide) to the atmosphere will not exceed 0.003 pound per hour, nor more than 0.01 ton per year.
- NAC 445B.305 Part 70 Program – The discharge of NO_x (nitrogen oxides) to the atmosphere will not exceed 92.0 tons per year, based on a 12-month rolling period.
- NAC 445B.305 Part 70 Program – The discharge of CO (carbon monoxide) to the atmosphere will not exceed 11.97 pounds per any one hour period, nor more than 38.0 tons per year, based on a 12-month rolling period.
- NAC 445B.305 Part 70 Program – The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 11.00 pounds per any one hour period, nor more than 48.48 tons per year.



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Facility ID No. A0009

PERMIT NO. AP2819-0886.02

CLASS I AIR QUALITY OPERATING PERMIT

Issued to: Cyanco Company, LLC. (Permittee)

Section VI. Specific Operating Conditions (continued)

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits (continued)

- i. NAC 445B.305 Part 70 Program – The discharge of Cyanide Compounds to the atmosphere will not exceed 0.68 pound per any one hour period, nor more than 3.00 tons per year.
- j. NAC 445B.305 Part 70 Program – The discharge of Pb (lead) to the atmosphere will not exceed 4.24E-5 pound per any one hour period, nor more than 1.86E-4 ton per year.
- k. 445B.2207(1)(b) Federally Enforceable SIP Requirement – Incinerator burning which produces, for periods totaling 1 minute in 1 hour, a visible emission which is of an opacity equal to or greater than 20 percent, is prohibited.
- l. NAC 445B.22017 Federally Enforceable SIP Requirement – The opacity from the stack discharge of TO-280 will not equal or exceed 20%.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

- a. The maximum allowable production rate of Sodium Cyanide (NaCN) from S2.004 – S2.006, combined, will not exceed 6.25 tons per any one hour period, nor more than 102 million pounds per year (51,000 tons), based on a 12-month rolling period.
- b. TO-280 will combust only pipeline quality natural gas and normal process waste gases.
- c. The maximum operating heat input rate for TO-280 will not exceed 86.5 MMBtu per hour.
- d. TO-280 will maintain a minimum 1400°F operating temperature.
- e. 445B.2207(3) Federally Enforceable SIP Requirement The rated burning capacity, operating and maintenance procedures approved by the Director for TO-280 must be posted conspicuously at or near TO-280.
- f. Hours
S2.004 – S2.006, each, may operate 8,760 hours per year.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program

a. Performance/Compliance Testing

The Permittee shall:

- (1) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct and record compliance tests for PM, PM₁₀, CO, NO_x and VOC using Methods 1-4, 5/202, 201A/202, 10, 7 and 25 (or equivalent EPA reference methods approved in advance by the Director). Compliance tests for Cyanide Compounds will also be conducted once every year, using a combination of Method 5/202 and NIOSH Method 7904. All compliance tests must consist of a minimum of three valid runs for each pollutant on the exhaust stack of TO-280. The tests must be conducted at hourly throughput rates that are representative of TO-280 system's performance. The Method 5/202, 10 and 25 compliance tests must be conducted in accordance with test methods contained in 40 CFR Part 60, Appendix A. The sample time for each Method 5 test run shall be at least 60 minutes. The sample volume for each Method 5/202 test run shall be at least 60 dry standard cubic feet. The Method 201A/202 compliance tests must be conducted simultaneously and in accordance with 40 CFR Part 51, Appendix M. The NIOSH Method 7904 compliance test will be conducted in accordance with NIOSH Manual of Analytical Methods, Fourth Edition (8/15/1994). All annual compliance testing will be conducted not more than 90 days from the anniversary date of the previous compliance testing. Upon written request, the Director may approve an extension to the annual compliance test date.



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Issued to: Cyanco Company, LLC. (Permittee)

Section VI. Specific Operating Conditions (continued)

B. Emission Units S2.004 – S2.006

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

a. Performance/Compliance Testing (continued)

- (2) A Method 5/202 compliance test, which includes the back-half catch, may be substituted for the Method 201A/202 compliance tests required in B.4.a.(1) of this section. All particulate matter captured in the Method 5/202 tests, performed under this provision, will be considered PM₁₀ emissions for compliance demonstration purposes.
- (3) After at least three successive compliance tests, the Director may authorize, in writing, a less frequent compliance testing schedule than the annual testing schedule required in B.4.a.(1) of this section. The authorization will be based on pollutant-by-pollutant review of the emission rates during each compliance test. The review will include an evaluation of the variability in the measured emission rates and the percentage amount that the measured emission rates are below the permitted emission limit. The review will also include an evaluation of the operating throughput rate recorded during each compliance test, readings of the relevant control parameters taken during each compliance test and any other information requested by the Director. The compliance testing frequency will not be less than one test every five years.
- (4) During each compliance test, as required in B.4.a.(1) and (2) of this section, record the total sodium cyanide production (based on a 100% contained NaCN basis).
- (5) During each compliance test run, but no less frequently than once per calendar year, record the opacity of the discharge from the exhaust stack of TO-280, using either a calibrated continuous opacity monitor or the visible emissions evaluation procedures contained in 40 CFR Part 60, Appendix A, Method 9. The visible emissions evaluations must be conducted by a certified visible emissions reader for a period of 6 minutes (recorded as 24 consecutive readings at 15 second intervals).
- (6) During each compliance test run, record the average thermal oxidizer residence time.
- (7) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct the Relative Accuracy Test Audit (RATA) required to certify the performance of the NO_x CEMS described in B.4.b.(2) of this section. The annual RATA must be conducted within 12 months of the previous RATA, and must be done in accordance with the notification, protocol approval, and reporting requirements of NAC 445B.252 Testing and Sampling, and NAC 445B.259 Monitoring systems: Performance evaluations.
- (8) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct a test to demonstrate the performance of the flow monitoring devices described in B.4.b.(4) of this section. The demonstration shall be comprised of a series of nine 30-minute test runs. The average sum of the inlet flows during each test run must total at least 100 percent, but not more than 110 percent, of the average exhaust flow measured during each test run. The annual flow monitoring demonstration must be undertaken in accordance with the notification, protocol approval, and reporting requirements of NAC 445B.252 Testing and Sampling, and NAC 445B.259 Monitoring systems: Performance evaluations.



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Section VI. Specific Operating Conditions (continued)

B. Emission Units S2.004 – S2.006

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

b. Monitoring

The Permittee shall:

- (1) Monitor the average NaCN production (in tons) for each one-hour period.
- (2) Install, calibrate, operate and maintain, in the exhaust stack of TO-280, a NO_x continuous emission monitoring (CEM) system (consisting of a NO_x pollutant concentration monitor). The CEMs must meet the criteria contained in 445B.257 through 445B.265, and continuously measure the NO_x concentration (in ppm). The NO_x monitoring system will meet the design, installation, equipment and performance specifications in 40 CFR Part 60, Appendix B, Performance Specifications 2 and 3 (or any other appropriate EPA performance specifications contained in 40 CFR Part 60, Appendix B approved in advance by the Director) and the quality assurance procedures contained in 40 CFR Part 60, Appendix F. If the results of the stack testing required in B.4.a.(1) of this section indicate that oxygen levels in the stack gases are necessary to determine a valid NO_x emission rate, an oxygen diluent monitor will be installed within 90 days from the Director's request.
- (3) In accordance with NAC 445B.261 Monitoring systems: Adjustments. Check the zero and span drift of the NO_x CEMS at least once daily in accordance with the method prescribed by the manufacturer of the systems unless the manufacturer recommends adjustments at shorter intervals, in which case the recommendations must be followed. The zero and span must, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour calibration drift limits of the applicable performance specifications in Appendix B of 40 CFR Part 60 are exceeded.
- (4) Install, calibrate, operate, and maintain flow monitoring devices on the inlet flows of TO-280. Flow monitoring devices are required to monitor the flow of natural gas, the NaCN reactor's waste gas stream, and combustion air into TO-280. The sum of the inlet flows shall represent the exhaust flow rate from the stack of TO-280, calculated to dry standard cubic feet per hour (DSCFH). The performance of the inlet flow monitoring devices and the accuracy of the exhaust flow calculation must be demonstrated once annually through a performance test (see B.4.a.(8) of this section).
- (5) Based on the NO_x concentration (in ppm) measured in B.4.b.(2) of this section and the volumetric gas flow (in DSCFH) determined in B.4.b.(4) of this section, calculate NO_x mass emissions (in pounds) for each one hour period.
- (6) Monitor the hours of operation of **S2.004 – S2.006**, each.
- (7) Continuously monitor and record the oxidizer's (TO-280) operating temperature (in °F).
- (8) Conduct a weekly inspection of TO-280. Record any problems with TO-280 and any corrective actions taken.
- (9) The indicator range for TO-280 shall be defined as follows: The operating temperature for TO-280 shall be maintained at or above 1,400 °F. Excursions shall be defined as any time the operating temperature falls below this indicator range during one 15 minute rolling average period.



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Section VI. Specific Operating Conditions (continued)

B. Emission Units S2.004 – S2.006

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program*
Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

b. Monitoring (continued)

- (10) Permittee will monitor and sample the ambient air for Hydrogen Cyanide and monitor and record meteorological conditions at the sampling site as specified by the Bureau of Air Pollution Control and in accordance with the requirements of the PSD Monitoring Guidelines (EPA 450/4-87-007) and all the quality assurance procedures specified in the Quality Assurance Handbook for Air Pollution Measurement Systems (EPA 600/4-77-027a). Findings will be submitted to the Bureau of Air Pollution Control within 60 days after the end of each calendar quarter. The quality control and quality assurance aspects of the Hydrogen Cyanide ambient monitoring program shall be documented with monitor calibrations, monitor performance audits, gas concentration certifications and descriptions of any ambient air quality alarms triggered during the reporting period. The Hydrogen Cyanide detection monitors will be installed at the following locations and set to detect the following concentrations:

Hydrogen Cyanide Property Monitor	10.00 ppm @ 0.87 km, East North East
Hydrogen Cyanide Property Monitor	10.00 ppm @ 0.47 km, South

(Property monitor's set points are for reference conditions of 1 atm, 273 °K)

- (11) A monitoring alarm system must be connected to the Humboldt County Sheriff's Department. This system will be capable of automatically notifying the Sheriff's Department not more than 15 minutes following an exceedance of respective property monitoring limits.



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Section VI. Specific Operating Conditions (continued)

B. Emission Units S2.004 – S2.006 (Continued)

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program (continued)

c. Recordkeeping

The Permittee shall:

- (1) Install, calibrate, operate, and maintain a continuous data collection system (CDCS) to record the NaCN production required in B.4.b.(1) of this section. The production rate will be recorded at least once every 15 minutes. The CDCS will be installed, calibrated, operated and maintained in accordance with the manufacturer's specifications and the requirements prescribed in 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 2, and 40 CFR Part 75, Part 75.11 and Appendix F.
- (2) Use the CDCS required in B.4.c.(1) of this section to also continuously record the thermal oxidizer's operating temperature. The temperature will be recorded at least once every 15 minutes.
- (3) Use the CDCS required in B.4.c.(1) of this section to also continuously record the information measured as required by B.4.b.(2) of this section and the calculated NO_x emission rate based on the monitored NO_x concentration and monitored flow rate. All measured information will be recorded at least once every 15 minutes. Additionally, record the following parameters:
 - (a) The hourly average NO_x concentration (in ppm) measured in B.4.b.(2) of this section;
 - (b) The hourly average O₂ concentration (in percent) if required by B.4.b.(2) of this section. A flag will be included in the CDCS record to indicate whether the O₂ concentration is based on dry or wet O₂ measurements;
 - (c) The hourly average volumetric gas flow rate (in DSCFH) determined in B.4.b.(4) of this section;
 - (d) The NO_x mass emissions (in pounds) for each one-hour period of operation;
 - (e) The daily mass emissions of NO_x (in pounds) as the sum of the hourly emissions;
 - (f) The monthly mass emissions of NO_x (in tons) as the sum of the daily emissions;
 - (g) At the end of each calendar month, calculate and record the 12-month rolling average mass emissions of NO_x (in tons). The 12-month rolling average emissions will be calculated as the sum of the emissions from the current month, plus the emissions from the preceding 11 months.
- (4) Use the CDCS required in B.4.c.(1) of this section to also continuously record the calendar date and time of any required monitoring for **S2.004 – S2.006**.
- (5) Maintain the following information in a contemporaneous log for **S2.004 – S2.006**, each, for each day or part of a day that **S2.004 – S2.006**, each, are operating:
 - (a) A description of any modifications or alterations made to the CEMS or CDCS which could affect the ability of the system to comply with the appropriate performance specifications in 40 CFR Part 60, Appendix B.
 - (b) Retain all required records in accordance with Section V.A. of this operating permit.
 - (c) Results of the continuous operating temperature readings for TO-280, and verification that the continuous operating temperature remained at or above 1,400 °F.
- (6) The thermal oxidizer temperature sensors, property monitors and the recording of meteorological conditions as required under VI.B.4. will be connected to a data logger that will record the information continuously. The data will be transferred to a secure website and the Bureau of Air Pollution Control will be provided a password allowing continuous access to the data being recorded.



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Section VI. Specific Operating Conditions (continued)

B. Emission Units S2.004 – S2.006 (Continued)

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program

c. Recordkeeping (continued)

- (7) Based on the results of the most recent annual cyanide compounds compliance test required in B.4.a.(1) of this section, as well as the required production rate of NaCN as required in B.4.c.(1) of this section, use the cyanide compounds emission rate from the most recent compliance test (in units of pounds-HCN/hour) in conjunction with production of NaCN (in units of pounds-NaCN/hr) to calculate pounds of cyanide compounds per month, for each 12-month rolling period. Based on this monthly result, calculate annual emissions of cyanide compounds in units of tons-HCN/12-month rolling period.
- (8) An emission factor for PM₁₀, CO and VOC will be calculated (pounds per dry standard cubic feet) each year based on the results of the most recent performance test for PM₁₀, CO and VOC required in B.4.a.(1) of this section. The emission factor shall be used from the date the performance test data report is published until the date of the next performance test date publishing. Permittee will record the daily emissions of PM₁₀, CO and VOC based on the emission factor multiplied by the inlet flows recorded in B.4.c.(3) of this section. The monthly emissions will be determined at the end of each calendar month as the sum of the total daily emissions, in tons. The 12-month rolling emissions will be determined by adding the emissions from the current month, in tons, to the emissions from the preceding 11 months.
- (9) Permittee shall maintain a file of all measurements related to the CEMS in accordance with V.F.3. of this operating permit, including all calibration checks, quarterly CEMS audits, and other quality assurance measurements.
- (10) In accordance with NAC 445B.265 Monitoring systems: Records; reports, maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of an affected facility and any malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative (see V.F.1. of this operating permit).

d. Reporting

The Permittee shall:

- (1) Report all excess emissions as required in Sections III.B and III.C of this operating permit.
- (2) Report all deviations as required in Sections V.C and V.F of the operating permit.
- (3) Submit semi-annual monitoring reports as required in Section V.C of this operating permit.
- (4) Certify compliance with all applicable requirements as required in Section V.E of this operating permit.
- (5) All required monitors will be audited on a quarterly basis. The audits will be conducted by an independent third party, acceptable to the Chief of the Bureau of Air Pollution Control. Reports of the audits will be submitted to the Bureau of Air Pollution Control on a quarterly basis.
- (6) In accordance with NAC 445B.265 Monitoring systems: Records; reports, submit a written report of excess emissions to the Director for every calendar quarter. All quarterly reports must be postmarked by the 30th day following the end of each calendar quarter and must include the information specified under NAC 445B.265.2.(a) through (d).



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Section VI. Specific Operating Conditions (continued)

B. Emission Units S2.004 – S2.006 (Continued)

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program

d. Reporting (continued)

- (7) Permittee shall demonstrate compliance with the Projected Actual Emissions (PAE) specified in its February 9, 2012 application for minor revision by reporting the actual 12-month rolling average emissions of PM/PM₁₀, NO_x, CO, and VOC from TO-280 on a quarterly basis, commencing with the first quarter following the date of startup of **S2.004 – S2.006**. Permittee shall comply with the following PAE limits on and after the date of startup of **S2.004 – S2.006**:
- (a) PM/PM₁₀ – 9.06 tons per 12-month rolling period.
 - (b) NO_x – 81.09 tons per 12-month rolling period.
 - (c) CO – 17.22 tons per 12-month rolling period.
 - (d) VOC – 1.28 tons per 12-month rolling period.
- (8) Permittee will submit quarterly reports to the Director demonstrating compliance with PAE limits for PM/PM₁₀, NO_x, CO, and VOC, as specified in B.4.d.(7) above, for the first five years after the date of startup of **S2.004 – S2.006**, and annually thereafter. If the 12-month rolling period emissions exceed the limit specified in B.4.d.(7)(b), above, for NO_x, Permittee is also required to provide justification in the report that the February 9, 2012 application for revision was not a PSD major modification.

5. NAC 445B.3405 (445B.316) Part 70 Program Shielded Requirements

N/A



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Section VI. Specific Operating Conditions (continued)

C. Emission Units S2.007 and S2.008

Location S2.007 – North 4,532.628 km, East 427.503 km, UTM (Zone 11)

Location S2.008 – North 4,532.580 km, East 427.542 km, UTM (Zone 11)

System 03 – Emergency Diesel Generators

S 2.007 Emergency Diesel Generator Plant 1 (94 HP) – Manufacture 1990

S 2.008 Emergency Diesel Generator Plant 2 (94 HP) – Manufacture 1990

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Equipment

S2.007 and S2.008 have no add-on controls.

Stack Parameters for S2.007 and S2.008, each

Height: 6.0 ft
Diameter: 0.196 ft
Exhaust Temperature: 1150 °F
Volume Flow: 765 ASCFM

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of **S2.007 and S2.008**, Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stacks of **S2.007 and S2.008**, the following pollutants in excess of the following specified limits:

- a. NAC 445B.2203 Federally Enforceable SIP Requirement – Not applicable to fuel burning equipment having a maximum heat input less than 4 million Btu per hour.
- b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ to the atmosphere from **S2.007 and S2.008**, each, will not exceed 0.21 pound per hour, nor more than 0.05 ton per year.
- c. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere from **S2.007 and S2.008**, each, will not exceed 0.21 pound per hour, nor more than 0.05 ton per year.
- d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere from **S2.007 and S2.008**, each, will not exceed 0.46 pound per hour.
- e. NAC 445B.305 Part 70 Program - The discharge of SO₂ (sulfur dioxide) to the atmosphere from **S2.007 and S2.008**, each, will not exceed 0.19 pound per hour, nor more than 0.05 ton per year.
- f. NAC 445B.305 Part 70 Program - The discharge of NO₂ (nitrogen dioxide) to the atmosphere from **S2.007 and S2.008**, each, will not exceed 2.91 pounds per hour, nor more than 0.73 ton per year.
- g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere from **S2.007 and S2.008**, each, will not exceed 0.63 pounds per hour, nor more than 0.16 ton per year.
- h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere from **S2.007 and S2.008**, each, will not exceed 0.24 pound per hour, nor more than 0.06 ton per year.
- i. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from the stack discharges will not equal or exceed 20%, each, in accordance with NAC 445B.22017.



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Section VI. Specific Operating Conditions (continued)

C. Emission Units S2.007 and S2.008 (continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters

- a. **S2.007 and S2.008** may combust diesel fuel only.
- b. The maximum diesel fuel consumption rate for **S2.007 and S2.008**, each, will not exceed 4.7 gallons per hour.
- c. Hours
S2.007 and S2.008, each, may operate 24 hours per day and up to 500 hours per calendar year for nonemergency use until May 3, 2013 after which the limit will be 100 hours per year.

4. (NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring, Record keeping and Compliance
Permittee will:

- a. Monitor and record the quantity of diesel fuel combusted in **S2.007 and S2.008**, each, on a daily basis.
- b. Monitor and record the hours of operation of **S2.007 and S2.008**, each, on a daily basis.
- c. The required monitoring established in 4.a. and 4.b. above will be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:
 - (1) The calendar date of any required monitoring.
 - (2) The total daily fuel consumption, in gallons, for the corresponding date.
 - (3) The total daily hours of operation for the corresponding date.
 - (4) The corresponding average hourly fuel consumption rate, in gallons per hour, computed by dividing the total daily fuel consumption, recorded in 4.c.(2) above, by the total daily hours of operation recorded in 4.c.(3) above.
 - (5) The monthly hours of operation and the corresponding sum of the monthly hours of operation beginning in January of each year to ensure compliance with the annual limit on operating hours, as specified in 3.c. of this section.

5. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

NESHAP for *Stationary Reciprocating Internal Combustion Engines (RICE)*, 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580, et. seq.) – *Existing* stationary RICE located at an *Area Source* of HAP emissions (40 CFR 63.6590(a)(1)(iii))

- a. Permittee will be required to comply with the applicable operating limitations no later than May 3, 2013 (40 CFR 63.6595(a)(1)).
- b. Permittee shall comply with the following operating limitations set forth in Table 2d (Emergency CI RICE) of 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6603(a)).
 - (1) Change oil and filter every 500 hours of operation or annually, whichever comes first;
 - (2) Inspect air cleaner every 1000 hours of operation or annually, whichever comes first; and
 - (3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
 - (4) Permittee has the option of utilizing an oil analysis program to extend the specified oil change requirement in 5.b.(1) above. The oil analysis program should be performed in the manner specified in 40 CFR 63.6625(i).



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Section VI. Specific Operating Conditions (continued)

C. Emission Units S2.007 and S2.008 (continued)

5. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories NESHAP for *Stationary Reciprocating Internal Combustion Engines (RICE)*, 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580, et. seq.) – Existing stationary RICE located at an Area Source of HAP emissions (40 CFR 63.6590(a)(1)(iii))(continued)
 - c. Permittee shall comply with the following *General Compliance Requirements* for 40 CFR Part 63, Subpart ZZZZ
 - (1) You (Permittee) must be in compliance with the emission limitations and operating limitations in 40 CFR Part 63, Subpart ZZZZ, that apply to you at all times (40 CFR 63.6605(a)).
 - (2) At all times you (Permittee) must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source (40 CFR 63.6605(b)).
 - d. *Operation and Installation Requirements* for 40 CFR Part 63, Subpart ZZZZ:
 - (1) If you (Permittee) own or operate an existing stationary emergency RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions (40 CFR 63.6625(e)).
 - (2) If you (Permittee) own or operate an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed (40 CFR 63.6625(f)).
 - e. *Demonstration of Continuous Compliance* – 40 CFR Part 63, Subpart ZZZZ
 - (1) You (Permittee) must demonstrate continuous compliance with the operating limitation in Table 2d of Subpart ZZZZ. Demonstration of compliance with work or management practices, as required in C.5.d. above, shall be done according to the following methods in Table 6 of Subpart ZZZZ (40 CFR 63.6640(a)):
 - (i) Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
 - (ii) Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
 - (2) You (Permittee) must report each instance in which you did not meet the operating limitation in Table 2d of Subpart ZZZZ. These instances are deviations from the emission and operating limitations in Subpart ZZZZ. These deviations must be reported according to the requirements in 40 CFR 63.6650 (40 CFR 63.6640(b)).
 - (3) You (Permittee) must also report each instance in which you did not meet the requirements in Table 8 to Subpart ZZZZ that apply to you (40 CFR 63.6640(e)). Table 8 to Subpart ZZZZ contains those applicable general provisions of 40 CFR Part 63, Subpart A.



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CLASS I AIR QUALITY OPERATING PERMIT

Issued to: Cyanco Company, LLC. (Permittee)

Section VI. Specific Operating Conditions (continued)

C. Emission Units S2.007 and S2.008 (continued)

5. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

NESHAP for *Stationary Reciprocating Internal Combustion Engines (RICE)*, 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580, et. seq.) – *Existing* stationary RICE located at an *Area Source* of HAP emissions (40 CFR 63.6590(a)(1)(iii))(continued)

f. Operating Conditions for Emergency Stationary RICE – 40 CFR Part 63, Subpart ZZZZ

- (1) If you (Permittee) own or operate an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the engine according to the following conditions:
 - (i) For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited (40 CFR 63.6640(f)(1)).
 - (ii) There is no time limit on the use of emergency stationary RICE in emergency situations (40 CFR 63.6640(f)(2)).
 - (iii) You (Permittee) may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains record indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year (40 CFR 63.6640(f)(3)).
 - (iv) You (Permittee) may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power (40 CFR 63.6640(f)(4)).



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Section VI. Specific Operating Conditions (continued)

C. Emission Units S2.007 and S2.008 (continued)

5. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580, et. seq.) – Existing stationary RICE located at an Area Source of HAP emissions (40 CFR 63.6590(a)(1)(iii))(continued)

g. Reporting Requirements – 40 CFR Part 63, Subpart ZZZZ

- (1) Compliance reports shall be submitted semi-annually in accordance with the requirements in Section V.C. of this *Part 70* operating permit (40 CFR 63.6650(b)(5)).
- (2) The semi-annual compliance report should contain, at a minimum, the following information:
 - (i) Company name and address (40 CFR 63.6650(c)(1)).
 - (ii) Statement by the responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report (40 CFR 63.6650(c)(2)).
 - (iii) Date of report and beginning and ending dates of the reporting period (40 CFR 63.6650(c)(3)).
- (3) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period should be included in the semi-annual compliance report (40 CFR 63.6650(c)(5)).
- (4) For each deviation, the compliance report must contain the total operating time of the stationary RICE at which the deviation occurred during the reporting period, and information on the number, duration, and cause of deviations (including unknown cause, if applicable), and the corrective action taken (40 CFR 63.6650(d)).
- (5) Permittee must report all deviations, including failure to perform periodic inspections and maintenance required in C.5.b. above, and failure to operate **S2.009** according to the work or management practices developed either by the Permittee or the manufacturer. Deviations shall be reported semi-annually in accordance with the requirements in Section V.C. of this *Part 70* operating permit (40 CFR 63.6650(f)).

h. Recordkeeping Requirements – 40 CFR Part 63, Subpart ZZZZ

- (1) Permittee shall keep records of the following:
 - (i) You (Permittee) must keep records to show continuous compliance with each operating limitation and work or management practice that applies to you (40 CFR 63.6655(d)).
 - (ii) You (Permittee) must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate an existing stationary emergency CI RICE (40 CFR 63.6655(e)(2)).
 - (iii) You (Permittee) must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator (Permittee) must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response (40 CFR 63.6655(f)(2)).
 - (iv) Records must be in a form suitable and readily available for expeditious review; you (Permittee) must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; you must keep each record readily accessible in hardcopy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record (40 CFR 63.6660).



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CLASS I AIR QUALITY OPERATING PERMIT

Issued to: Cyanco Company, LLC. (Permittee)

Section VI. Specific Operating Conditions (continued)

C. Emission Units S2.007 and S2.008 (continued)

6. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Shielded Requirements

N/A

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CLASS I AIR QUALITY OPERATING PERMIT

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Section VI. Specific Operating Conditions (continued)

D. Emission Unit S2.009

Location – North 4,532.624 km, East 427.496 km, UTM (Zone 11)

System 04 – Gasoline Dispensing Facility (GDF)

S 2.009 Gasoline Storage Tank – 500-Gallon Capacity

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Equipment
S2.009 has no add-on controls.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **S2.009**, Permittee will not discharge or cause the discharge into the atmosphere from **S2.009** the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.075 ton per year.
 - b. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **S2.009**, will not exceed 20% in accordance with NAC 445B.22017.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. **S2.009** may store gasoline only.
 - b. The maximum gasoline loading in to **S2.009**, will not exceed 200 gallons per calendar month, nor more than 2,400 gallons per year.
 - c. Hours
S2.009 may operate up to 8,760 hours per calendar year.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **S2.009**, Permittee will:
 - a. Monitor and record the amount of gasoline, in gallons, loaded into, or dispensed from, **S2.009**, on a monthly basis, as determined from vendor invoices.
 - b. At the end of each calendar month, record the amount of gasoline (in gallons) loaded in to, or dispensed from, **S2.009**, on a 12-month rolling basis, as determined from vendor invoices.
5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in D.4. above, so as to include the calendar date of the required monitoring.



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Issued to: Cyanco Company, LLC. (Permittee)

Section VI. Specific Operating Conditions (continued)

D. Emission Units S2.009 (continued)

6. 40 CFR Part 63, Subpart CCCCCC – NESHAP for Gasoline Dispensing Facilities (40 CFR 63.11110 et. seq.)
 - a. **S2.009** is an individual affected source (40 CFR 63.11111(h), 40 CFR 63.11112(d)), with a monthly throughput of less than 10,000 gallons of gasoline (63.11111(b)).
 - b. You (Permittee) must, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source (40 CFR 63.11115).
 - c. You (Permittee) must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:
 - (1) Minimize gasoline spills (40 CFR 63.11116(a)(1)).
 - (2) Clean up spills as expeditiously as practicable (40 CFR 63.11116(a)(2)).
 - (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use (40 CFR 63.11116(a)(3)).
 - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators (40 CFR 63.11116(a)(4)).
 - d. You (Permittee) must have records available within 24 hours of a request by the Administrator to document your gasoline throughput (40 CFR 63.11116(b)).

7. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Shielded Requirements

N/A

*******End of Specific Operating Conditions*******



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CLASS I AIR QUALITY OPERATING PERMIT

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Section VII. Emission Caps

A. No Emission Caps

*****End of Emission Caps Conditions*****

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Section VIII. Surface Area Disturbance Conditions

A. Dust Control Plan (NRS 445B.230.6)

The permittee may not cause or permit the construction, repair, or demolition work, or the use of unpaved or untreated areas without applying all such measures as may be required by the Director to prevent particulate matter from becoming airborne.

B. NAC 445B.22037

Fugitive Dust

1. The permittee may not cause or permit the handling, transporting, or storing of any material in a manner which allows or may allow controllable particulate matter to become airborne.
2. Except as otherwise provided in subsection 4, the permittee may not cause or permit the construction, repair, demolition, or use of unpaved or untreated areas without first putting into effect an ongoing program using the best practical methods to prevent particulate matter from becoming airborne. As used in this subsection, "best practical methods" includes, but is not limited to, paving, chemical stabilization, watering, phased construction, and revegetation.
3. Except as provided in subsection 4, the permittee may not disturb or cover 5 acres or more of land or its topsoil until the permittee has obtained an Permit to construct for surface area disturbance to clear, excavate, or level the land or to deposit any foreign material to fill or cover the land.
4. The provisions of subsections 2 and 3 do not apply to:
 - a. Agricultural activities occurring on agricultural land; or
 - b. Surface disturbances authorized by a permit issued pursuant to NRS 519A.180 which occur on land which is not less than 5 acres or more than 20 acres.

*******End of Surface Area Disturbance Conditions*******



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Section IX. Schedules of Compliance

A. N/A

*****End of Schedules of Compliance*****

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BUREAU OF AIR POLLUTION CONTROL

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CLASS I AIR QUALITY OPERATING PERMIT

Issued to: **Cyanco Company, LLC. (Permittee)**

Section X. Amendments

June 8, 2012 – Application for PSD minor revision, with official date of submittal February 09, 2012:

1. Increase hourly NaCN production rate for P1 from 5.0 tons per hour (79.8 MMlbs per year) to 6.25 tons per hour (102 MMlbs per year). Also, increase the NaCN production rate for P2 from 5.2 tons per hour (83.0 MMlbs per year) to 6.25 tons per hour (102 MMlbs per year).
2. Refurbish B-5300 thermal oxidizer. Waste gas from P1 will be ducted to both B-5300 and TO-1.
3. Install one additional blower at P1 and P2 to supply process air. This will provide the air needed for higher production.
4. Replace mixed gas header, filters, mixer, and flame arrestor in P1 and P2. This will allow for increased mixed gas flow to the reactors.
5. Replace the reactor top in P1. This will decrease differential pressure through the reactor top to the catalyst to allow higher permitted throughput.
6. Modify the disengagement vessels in P1 and P2.
7. Modify the tests for the thermal oxidizers to be conducted at a rate representative of their performance instead of the maximum and the performance tests to be published in a reasonable time.

This permit:

1. **Is non-transferable. (NAC 445B.287.4) Part 70 Program**
2. **Will be posted conspicuously at or near the stationary source. (NAC 445B.318) (State Only Requirement)**
3. **Will expire and be subject to renewal five (5) years from December 5, 2011. (NAC 445B.315 and 3443.1) Part 70 Program**
4. **A complete application for renewal of an operating permit must be submitted to the director on the form provided by him with the appropriate fee at least 240 calendar days before the expiration date of this operating permit. (NAC 445B.3443.2) Part 70 Program**
5. **Any party aggrieved by the Department's decision to issue this permit may appeal to the State Environmental Commission (SEC) within ten days after the date of notice of the Department's action. (NRS 445B.340) (State Only Requirement)**

THIS PERMIT EXPIRES ON: December 5, 2016

Signature DRAFT

Issued by: Jeffrey Kinder, P.E.
Supervisor, Permitting Branch
Bureau of Air Pollution Control

Phone: (775) 687-9475 **Date:** DRAFT

Class I Non-Permit Equipment List

Cyanco Company, LLC.

Facility-Wide Class I Operating Permit AP2819-0886.02

Emission Unit #	Emission Unit Description
IA1.001	Backup Well Engine (BWEP, 0.51 MMBtu)
IA1.002	Warm-Up Boiler (WMUBOIL, 4.2 MMBtu)
IA1.003	South Building Heater (SBHEATER, 150,000 Btu)
IA1.004	Control Center E Heater (CCHEATER, 150,000 Btu)
IA1.005	West Half Building Heater (WBHEATER, 135,000 Btu)
IA1.006	North Building Heater (NBHEATER, 80,000 Btu)
IA1.007	Shop Heater (SHHEATER, 105,000 Btu)
IA1.008	Warehouse Heater (WHHEATER, 105,000 Btu)
IA1.009	East MCC Building Heater (EBHEATER, 135,000 Btu)
IA1.010	Admin. Building Ext. Heater (ADEXHEATER, 224,000 Btu)
IA1.011	Warehouse II Heater 1 (WH2HEATER1, 150,000 Btu)
IA1.012	Warehouse II Heater 2 (WH2HEATER2, 150,000 Btu)
IA1.013	Warehouse II Heater 3 (WH2HEATER3, 150,000 Btu)
IA1.014	Warehouse II Heater 4 (WH2HEATER4, 150,000 Btu)
IA1.015	Diesel Tank (250 gallons)
IA1.016	Marley Cooling Tower 1 (1,600 gpm circulation)
IA1.017	Marley Cooling Tower 2 (1,600 gpm circulation)
IA1.018	Marley Cooling Tower 3 (1,600 gpm circulation)
IA1.019	Sodium Cyanide Storage Tank